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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/688,970	10/16/2000	Shinobu Furuta	NAKI-BM75	1431

7590 09/25/2002

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EXAMINER

CLOVE, THELMA S

ART UNIT PAPER NUMBER

2879

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/688,970

Applicant(s)

FURUTA ET AL.

Examiner

Thelma S Clove

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 16-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 8. 6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 7/22/02 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. Japanese references 59-195663, 43-002250, 51-006376, and 50-029588 have been placed in the application file, but the information referred to therein has not been considered.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 132 in figure 6B. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 16-18 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matthews et al. (EP 579429), McCarty et al. (US 4291444), and Mori (JP 58005944).

5. Regarding claim 16, 18 and 26, Matthews teaches a method for producing an electrode for a discharge lamp comprising a winding step for winding a refractory metal wire around a core member and forming n layer of coils one by one, n being larger than one, a removing step

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for removing the core member, and a rod inserting step for inserting an electrode rod into a space from which the core was removed, the electrode being made of a refractory metal, and a welding step for fixing the n layers of coils to the inserted electrode rod (in column 7 lines 48-54, column 3 lines 54-55, column 8 lines 6-8 and figure 7B).

6. Matthews does not teach the electrode being heat treated to remove distortion from the coils or a cutting step for cutting the formed layer and the core member.

7. McCarty teaches a tungsten coil for use as a filament in a lamp wound on a mandrel and heat treated (in column 1 lines 34-42).

8. McCarty teaches that coiled tungsten filaments for use in electric lamps are typically heat treated after being coiled (in column 1 lines 9-13).

9. It would have been obvious to one of ordinary skill in the art at the time the invention was made to heat treat the coiled layers after winding them on the core since the coils are commonly heat treated after being coiled, as taught by Matthews.

10. McCarty does not teach a cutting step for cutting the coiled layers and the core member.

11. Mori teaches a method for producing an electrode for a discharge lamp including a winding step and a cutting step for cutting the coil and core (in the abstract).

12. Mori teaches that this method enables mass production of the electrodes (in the abstract).

13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the cutting step of Mori in the method of production of Matthews since it enables mass production of the electrodes, as taught by Mori.

14. Regarding claims 17 and 27, Matthews shows the second coil layer being wound in the valleys of the first coil layer (in figure 7B).

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15. Claims 19-20 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matthews (EP 579429), McCarty (US 4291444), and Mori (JP 58005944) as applied to claims 16-18 and 26-27 above, and further in view of Chiba (JP 63313463).

16. Regarding claims 19-20 and 28-29, Mathews teaches the method according to claims 18 and 27, wherein molybdenum and tungsten are used (in column 3 lines 54-55).

17. Matthews does not teach the mandrel being removed by dissolving, wherein the coil is W and the mandrel is Mo.

18. Chiba teaches that tungsten coils wound on a molybdenum core can be removed from the core by dissolving the Mo in a solution (in the abstract).

19. Chiba teaches that dissolving the mandrel increases automation and lowers production costs (in the abstract).

20. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the dissolving step of Chiba to remove tungsten coils from a molybdenum mandrel in the production method of Matthews since dissolving the mandrel increases automation and lowers production costs, as taught by Chiba.

21. Claims 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matthews et al. (EP 579429) in view of McCarty et al. (US 4291444).

22. Regarding claim 21, Matthews teaches a method for producing an electrode for use in a discharge lamp comprising providing an elongated core, winding a first length of a wire material around the core at a first pitch to form a first layer coil, and winding a second length of a second material about the first layer coil at a first pitch to form a second layer coil, wherein the core and coil are comprise Mo or W (in column 7 lines 48-54, column 3 lines 54-55 and column 8 lines 49-57 and figure 7B).

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23. Matthews does not teach the electrode being heat treated to remove distortion from the coils.

24. McCarty teaches a tungsten coil for use as a filament in a lamp wound on a mandrel and heat treated (in column 1 lines 34-42).

25. McCarty teaches that coiled tungsten filaments for use in electric lamps are typically heat treated after being coiled (in column 1 lines 9-13).

26. It would have been obvious to one of ordinary skill in the art at the time the invention was made to heat treat the coiled layers after winding them on the core since the coils are commonly heat treated after being coiled, as taught by Matthews.

27. Regarding claim 22, McCarty teaches the method using a molybdenum mandrel and a tungsten wire coil (in column 1 lines 40-43).

28. Regarding claim 23, Matthews teaches the mandrel being removed from the coil layer, the insertion of an electrode rod, and the coils being fixed to the rod (in column 7 lines 50-55 and column 8 lines 6-8).

29. Matthews does not teach the mandrel being removed by dissolving.

30. McCarty teaches the mandrel being removed by dissolving (in column 2 lines 58-62).

31. McCarty teaches that it is customary for tungsten wire coils to be removed from a mandrel by dissolving the mandrel (in column 2 lines 58-62).

32. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method of dissolving the mandrel taught by McCarty to remove the mandrel of Matthews since it is customary for tungsten wire coils to be removed from a mandrel by dissolving the mandrel, as taught by McCarty.

33. Regarding claim 25, Matthews teaches the coil layers being fixed to the electrode rod by welding (in column 8 lines 6-8).

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34. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matthews et al. (EP 579429) as applied to claims 21-23 above, and further in view of Chiba et al. (JP 63313463).

35. Regarding claim 24, Matthews teaches the method according to claim 23.

36. Matthews does not teach the aqua regia used as the acid to dissolve the molybdenum mandrel.

37. Chiba teaches a method of manufacturing a tungsten coil on a molybdenum mandrel, wherein the coil is removed from the mandrel by dissolving the mandrel in a solution of aqua regia (in the abstract).

38. Chiba teaches that this method increases automation and lowers the cost of production (in the abstract).

39. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use aqua regia to dissolve the mandrel of Matthews since it increases automation and lowers the cost of production of the tungsten coils as taught by Chiba.

Conclusion

40. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Anderson et al. (US 2687489).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thelma S Clove whose telephone number is (703) 308-6548. The examiner can normally be reached on Monday-Friday from 8 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D Patel can be reached on (703) 305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7382 for regular communications and (703) 308-7382 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



TSC

September 23, 2002



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